

**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, ILLINOIS 60604**

DATE: JUL 12 2016

SUBJECT: CLEAN AIR ACT INSPECTION REPORT
Belmark Inc. – Plant 3, De Pere, Wisconsin

FROM: Cindy Schafer, Environmental Engineer
AECAB (MN/OH)

THRU: Brian Dickens, Section Chief
AECAB (MN/OH)

TO: File

BASIC INFORMATION

Facility Name: Belmark Inc. – Plant 3

Facility Location: 600 Heritage Road, De Pere, Wisconsin 54115

Other Attendees:

1. Luke Hullinger, Environmental Engineer, US EPA
2. Jeff Calaway, Operations Manager, Belmark
3. John Ambrosius, Plant Engineer, Belmark
4. Jim Wagner, EHS Specialist, Belmark
5. Jesse Milhans, Prepass Manager, Belmark
6. Nathan Treague, Regulatory Engineer, Belmark
7. Cheryl Pham, Environmental Consultant, Foth (arrived at 3:15pm)

Purpose of Inspection: NESHAP applicability

Facility Type: Flexographic printing

Regulations Central to Inspection: NESHAP source status: area or major source under 40 C.F.R. § 63.2

Arrival Time: 1:15 pm

Departure Time: 3:45 pm

Inspection Type:

- ☒ Unannounced Inspection
- ☒ Announced Inspection

OPENING CONFERENCE

- ☒ Credentials Presented
- ☒ CBI warning to facility provided

The following information was obtained verbally from Jeff Calaway, John Ambrosius, Jim Wagner, Nathan Treague, or Jesse Milhans unless otherwise noted.

Company Ownership: The facility was built in the early 2000s and has been owned and operated by Belmark Inc. – Plant 3 (Belmark) since it was built.

Process Description:

The facility prints customer designs onto various films using either central impression (CI) or in-line flexographic (in-line flexo) presses. Raw materials such as films, inks, and solvents are received by truck. Films are loaded onto printing presses and inks and solvents are stored in the storage room and then moved to the ink room for usage. Inks and solvents are piped to the presses from the ink room and mixed at the presses. The facility uses a solvent to thin the inks; the inks are monitored at each press for viscosity and the amount of solvent added is automated. After printing, the film goes through a curing oven and is then re-wound. The printed film is then laminated onto 1 to 3 more layers, cut into smaller rolls then packaged and shipped by truck to customers.

Staff Interview: The facility operates the printing presses 24 hours a day, 6 days a week. The facility operates the finishing processes 24 hours a day, 5 days a week. The facility employs approximately 205 people. There are additional Belmark facilities next door and across the street. The other facilities manufacture labels, folding cartons, flexible packaging and pouches.

The facility does mostly small scale jobs with the average job taking about 2 hours to complete on the printing presses. On average, the printing presses are running 20 minutes for each hour of operation. The facility also makes all of its own printing plates.

Films are received in rolls approximately 3 feet wide and 2 feet in diameter. Inks are received in 350 gallon totes, 55 gallon drums, or 5 gallon pails depending on usage. Ink thinning solvent is received by a tanker truck and is stored in an 8,000 gallon tank. The thinning solvent is 85% n-propyl alcohol and 15% n-propyl acetate. Overall thinning solvent usage is monitored at the storage tank.

The facility consists of 11 printing presses; 6 presses are CI presses and 5 presses are in-line flexo presses. The CI presses have natural gas dryers that heat the air around the printed film to 150-195°F. Once the oven reaches the desired temperature the air is recirculated and the presses start. The in-line flexo presses have electric dryers with a low pressure blower. No air recirculation occurs for the electric dryers. Exhaust from the printing presses is vented to an RTO

SIGNATURES

Lead Inspector: Cynthia A. Schiffrin Date: 6/27/2016

Section Chief: B. J. Schiffrin Date: 7/11/16

for VOC and HAP emission destruction. The facility conducts destruction efficiency testing for VOCs every 2 years and conducts capture efficiency testing within 6 months of installing a new printing press. The facility also has 2 UV curing ovens that are used occasionally; the UV curing ovens give a glossy finish to the printed films. A 100% solids varnish is used for this process and the exhaust from the UV ovens is not connected to the RTO.

After the films have been printed and dried the films are wound onto rolls. The next step for most films is to be laminated onto 1 to 3 secondary webs. The adhesive used in laminating is 100% solids, also referred to as solventless adhesive. Then the rolls are trimmed and cut to size by the slitters. There are no emissions controls on the laminating or slitting processes.

About 70% of the product then leaves the facility and is shipped to customers. Of the remaining 30%, 50% of the product is sent next door to another Belmark facility to be made into pouches. The remaining product is outsourced to another facility to be made into pouches. The Belmark facility next door receives 100% of its pouch-making material from this facility.

Last year the facility installed additional slitters; before the slitters were installed the bottleneck in the process was slitting, now the bottleneck is printing. Most of the presses are 3 to 4 years old with the oldest press being installed in April of 2010. All the presses are next generation presses.

TOUR INFORMATION

EPA toured the facility: Yes

Data Collected and Observations:

RTO operating parameters at the time of the inspection:

- Inlet temperature: 117°F
- Oxidation temperature: 1579°F
- 3-hour rolling average oxidation temperature: 1605°F
- Outlet temperature: 202°F
- Gas valve: 49% open

Field Measurements: were not taken during this inspection.

CLOSING CONFERENCE

Requested documents:

- SDS of solvent used to thin ink
- Solids analysis of cleanup solvent
- SDS for ethyl acetate
- SDS for 10 most frequently used inks
- Daily RTO temperature reports for May 2016
- RTO destruction efficiency stack tests – 2 most recent tests
- Capture efficiency tests for most recently installed CI and in-line presses
- VOC emissions calculations for 2015 (including equations)